

## EXHIBIT F

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IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, )  
W.A. DREW EDMONDSON, in his )  
capacity as ATTORNEY GENERAL )  
OF THE STATE OF OKLAHOMA, )  
et al. )

Plaintiffs, )

vs. )

CASE NO. 05-CV-329-GKF-PJC

TYSON FOODS, INC., et al., )

Defendants. )

TRANSCRIPT OF PROCEEDINGS  
JULY 29, 2009  
BEFORE THE HONORABLE GREGORY K. FRIZZELL, DISTRICT JUDGE  
MOTION HEARING, VOLUME II

APPEARANCES:

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1 materials submitted by the parties. The Court does not believe  
2 Dr. Johnson has, as alleged by the State, opined that IRW water  
3 quality problems are a result of natural processes. Rather,  
4 Dr. Johnson has criticized Dr. Olsen's approach and, thus, his  
5 conclusions because Olsen's PCA methodology does not take into  
6 account the question of whether and which components and source  
7 material, such as poultry litter, cow manure and wastewater  
8 treatment plant effluent, dissolve in water.

9 Dr. Johnson characterizes this failure as a flaw that  
10 compromises the reliability of the PCA and, thus, the  
11 conclusions of Dr. Olsen.

12 The Court, having reviewed Dr. Johnson's report,  
13 declaration and deposition testimony, finds that Dr. Johnson's  
14 methodology is sufficiently reliable to meet the requirements  
15 of Daubert. Therefore, the State's motion to strike  
16 Dr. Johnson's testimony is denied.

17 The Court has to do -- put together its thoughts with  
18 regard to Dr. Olsen. I will download some thoughts here that I  
19 had on the computer, go back and work on those a bit more. And  
20 we'll take a recess.

21 (Whereupon a recess was had.)

22 THE COURT: As to the motion to exclude Dr. Roger  
23 Olsen's principal component analysis testimony, No. 2082, the  
24 Tenth Circuit has recognized in this case that an expert's  
25 testimony is unreliable when it misapplies a reliable

1 methodology.

2           Number 1, Dr. Olsen has applied the PCA methodology  
3 in a novel way and has arrived at conclusions that result in  
4 too great an analytical gap between the data and the opinions  
5 proffered to be determined reliable.

6           Despite decades of poultry research, no one else has  
7 applied the PCA methodology in such a way as to identify a  
8 "poultry signature."

9           Number 2. The application of the methodology has not  
10 been subjected to peer review by anyone unconnected with this  
11 lawsuit. PCA is a statistical method of analyzing data. It  
12 uses a series of equations to identify patterns common to a  
13 large dataset.

14           As a result, Dr. Olsen was required to make  
15 discretionary, subjective decisions about which data he would  
16 enter into his calculations. The discretionary, subjective  
17 decisions in his methodology have not been tested or peer  
18 reviewed.

19           Number 3. Dr. Olsen's methodology is subjective and  
20 inconsistent; thus, unreliable. The materials before this  
21 Court suggest he has forced his conclusions to match new and  
22 evolving data.

23           In reaching this conclusion, the Court has considered  
24 the following:

25           A. Olsen does not sufficiently explain his criteria

1 regarding how he differentiates his principal runs and his  
2 other sensitivity runs.

3 B. Dr. Olsen does not sufficiently explain why he  
4 has very recently changed his poultry impact threshold which  
5 results in a significant shift in allegedly "poultry-impacted"  
6 samples changing previously poultry-impacted samples to  
7 nonimpacted samples.

8 C. Dr. Olsen's ovals are subjective evaluations of  
9 the data.

10 D. Dr. Olsen's treatment and explanations of certain  
11 wastewater treatment plant samples and cattle samples have  
12 shifted and changed in the face of data, showing such samples  
13 to be poultry impacted.

14 He first claimed to see a definitive cattle  
15 signature, but has now backed off that position.

16 E. Though Dr. Olsen ran the log adjusted runs SD1  
17 and SD6, and SW22, which Dr. Olsen had previously determined to  
18 be "important," plaintiff has submitted only two runs  
19 previously determined to be important.

20 Specifically, Dr. Olsen ran SW3 and SW17 after log  
21 adjustment, which was required after defendants' experts  
22 pointed out a fatal math error. Dozen of samples changed  
23 classifications in a nonuniform manner across the IRW after the  
24 correction, indicating that the math error did, in fact, affect  
25 the results.

1           Number 4. Dr. Olsen's approach does not account for  
2 alternative sources of most of the constituents in his PCA.

3           Number 5. The published literature states that --  
4 and before I do this, let me find out, did the -- do the  
5 defendants contend that the software package actually now  
6 replaces the missing values with a mean, Mr. Todd?

7           MR. TODD: Your Honor, it's our understanding that  
8 Dr. Olsen works -- we accept the representation by plaintiffs  
9 that he used the pairwise deletion function. Because of the  
10 manner in which Dr. Olsen had treated the data, he had done  
11 something called a Z transformation, which basically wraps the  
12 data around zero. So the mean was zero. So it was a  
13 mathematical equivalent. Running the pairwise was the  
14 mathematical equivalent of replacing everything with a mean.  
15 So we're happy to accept their representation.

16           THE COURT: Does that eliminate your objection?

17           MR. TODD: No, it doesn't, Your Honor, because our  
18 objection was to the effect of having missing data.

19           THE COURT: That's what I understood.

20           So Number 5. The published literature states that  
21 when a software package replaces missing values with means of  
22 the variables, this can bias statistical analysis if these  
23 values represent a significant number of the data being  
24 analyzed. Here, the replaced data represent a significant  
25 number of the data analyzed; thus, rendering the data



1 unreliable.

2           Number 6. The sampling procedures underlying  
3 Dr. Olsen's report add to the unreliability. Four of the PCA  
4 components are bacteria and are unreliable, given the violation  
5 of hold time standards previously discussed yesterday by this  
6 Court.

7           I have not taken a break. I'm going to do so at this  
8 time. We'll be in recess.

9           (Whereupon a recess was had.)

10           THE COURT: Mr. Overton reminds me that I need to  
11 rule on that motion. The motion to exclude Dr. Roger Olsen's  
12 principal component analysis testimony, No. 2082, is granted.

13           Our next set of motions here are the Sullivan, Teaf  
14 and McGuire motions. Have you-all talked about how you wish to  
15 take that up?

16           THE COURT: Mr. Ryan.

17           MR. RYAN: Thank you, Your Honor. May it please the  
18 Court. My name is Pat Ryan for Tyson Foods. I've had a little  
19 bit of deja vu here today, Your Honor. I'm reminded sort of my  
20 first day of law school when I walked in and looked around and  
21 thought I was clearly the dumbest person in the courtroom.  
22 I've certainly been made to feel that way today by Mr. Todd and  
23 Mr. Page and others.

24           I'll do my best to present our position on Dr. Teaf,  
25 who we believe is unqualified under Daubert. We believe, A,

1 testify as to that risk.

2 Now, the other question that they raise is the  
3 question of causation, that once you get past the concept that,  
4 under the water quality standards, the pollution levels in this  
5 river pose a risk, defendants then move to, well, Dr. Teaf says  
6 it's poultry and there's -- he can't testify as to causation.

7 And Dr. Teaf really offers two things in what is --  
8 two facto ids, I would say, or two facts which are important,  
9 albeit in and of themselves, they don't prove causation, but  
10 they're facts or opinions which are admissible and relevant.

11 First of all, the Court needs to understand that the  
12 issue of causation in this case as to bacteria, as it is with  
13 phosphorus, those are a -- we intend on proving it with a  
14 circumstantial case.

15 Included in that circumstantial case is the fact that  
16 every government agency -- and multiple have looked at this  
17 issue -- have found that poultry is a cause of the bacterial  
18 pollution in this watershed. That includes the USGS, the  
19 forest service, agencies in Arkansas and agencies in Oklahoma.  
20 All independent of our evidence here.

21 And we have the basic physics of the watershed, the  
22 karst geology, the thin soil, the amount of bacteria thrown  
23 onto those soils. There is where Dr. Teaf provides part of  
24 that causation case, and that is he performed what amounts to a  
25 mass balance, or the TMDL part of figuring out how much of the